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ABSTRACT

The Online Reference and Document Delivery Service Library Network developed at Eastern Oregon State College and operated in Eastern Oregon provides rural east Oregonians improved access to information sources via computers, telefacsimile, and telecommunications. Microcomputers have been placed in public, school, community college, and hospital libraries in the 10-county region served by the college. The absence of library support has been a problem for students in off-campus college programs, so library personnel proposed a computer-based interactive online database searching and telefacsimile network. Services and benefits include: comprehensive, current awareness, known-item, and brief topic searches; telefacsimile transmission of documents; improved library reference services; cooperative collection development efforts; and electronic mail service. The project has been replicated at other schools successfully. Various items documenting project usage are appended. Contains 11 references. (Author/SM)

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EASTERN OREGON STATE COLLEGE

ONLINE REFERENCE AND DOCUMENT DELIVERY SERVICE LIBRARY NETWORK

FUNDED BY

FRED MEYER CHARITABLE TRUST
OREGON STATE LIBRARY
EASTERN OREGON STATE COLLEGE
AND
PARTICIPATING LIBRARIES

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AASCU/ERIC Model Programs Inventory Project

The AASCU/ERIC Model Programs Inventory is a two-year project seeking to establish and test a model system for collecting and disseminating information on model programs at AASCU-member institutions--375 of the public four-year colleges and universities in the United States.

The four objectives of the project are:

- To increase the information on model programs available to all institutions through the ERIC system
- To encourage the use of the ERIC system by AASCU institutions
- To improve AASCU's ability to know about, and share information on, activities at member institutions, and
- To test a model for collaboration with ERIC that other national organizations might adopt.

The AASCU/ERIC Model Programs Inventory Project is funded with a grant from the Fund for the Improvement of Postsecondary Education to the American Association of State Colleges and Universities, in collaboration with the ERIC Clearinghouse on Higher Education at The George Washington University.

Abstract

Eastern Oregon State College received a total of $217,800 from the Fred Meyer Charitable Trust and the Oregon State Library through Library Services and Construction Act to develop, test and operate the Online Reference and Document Delivery Service Library Network in Eastern Oregon over a two and one-half year period. The network provides rural east Oregonians improved access to information sources through the use of computers, telefacsimile, and telecommunications technology. Microcomputers have been placed in public, school, community college and hospital libraries in the ten-county region. The Oregon State Library in Salem and Sacred Heart Hospital Library in Eugene also participate as back-up search centers, greatly expanding network resources.

Services available and benefits realized through the network include: comprehensive, current awareness, known-item, brief topic and other specialized simultaneous interactive online searches; telefacsimile transmission of documents; improved library reference services and a greatly improved interlibrary loan turnaround time and processing capabilities; cooperative collection development efforts; electronic mail service; and, training of librarians. The computer and telefacsimile equipment is being used for a myriad of other library management purposes and client services.

The project demonstrated an innovative approach to immediate delivery of data, information and documents between libraries, library patrons, and businesses, individuals or government agencies equipped with a microcomputer, modem and printer. A more extensive and new client base has developed as a result of libraries increasing their marketing and training and because of client experiences.

We believe and data indicates that the project has been successful. The network has been replicated--University of South Dakota, Montana State Law Library, Oregon State Library are three examples--and has served as a model for improving and establishing interlibrary linkages for resource sharing, cooperative collection development and improved document delivery. Costs of continued operation of the network have been planned for and absorbed by Eastern Oregon State College and the participating libraries.

A "how to" manual for establishing and operating similar networks has been produced and is available from the Eastern Oregon State College library by contacting:

Patricia Cutright
Online Reference Librarian
Walter M. Pierce Library
Eastern Oregon State College
La Grande, Oregon 97850
Telephone: (503) 963-1792

We would be pleased to answer questions and provide service demonstrations.

INTRODUCTION

Eastern Oregon State College, located in La Grande, Oregon, serves a ten-county region of over 42,000 square miles, an area larger than 16 states, but with only 8% of the state's population. The college's mission is to provide education, public service and applied research services to meet the needs of the region. Consequently, the college has developed an extensive off-campus educational and student support services program. One of the most important services provided students living in small communities distant from campus is comprehensive academic library services.

The interactive online reference and telefacsimile network was designed to improve academic library services in a large rural region -- the largest community has a population of 14,000 -- and where local libraries were not oriented to college student needs. The absence of library support was a problem for students enrolled in off-campus college programs. The prevalent method of research involved a student contacting a library and requesting a subject search, which was conducted from a reference interview. The results were then mailed to the student at a later date. Delivery of documents discovered through the search process was often delayed, with three to four weeks being typical. Search results may or may not have met a student's needs. This process limited students in their ability to complete class assignments and limited the college's ability to offer upper-division courses off-campus. Eastern's off-campus programs and individual upper-division courses require significant independent study. Access to scholarly research materials in small rural libraries was limited; in fact, it was usually not available.

As the college's administrators studied strategies for improving the delivery of education and public service, library personnel provided a review of the overall information service delivery needs in the region. They jointly concluded, based on a review of library practices and management literature, that there were a number of options available for not only improving services for our students, but also for library patrons across the region. After discussions with librarians in the region, students and college faculty,implementing an interactive online database searching capability and improving interlibrary loan services were identified as the best means of improving support for off-campus students. Why a network?

Students using interlibrary loan services were frustrated with time delays. Document delivery through interlibrary loan could take as long as four weeks. If the document requested was not appropriate, the student would have additional delays in obtaining other materials. Besides the problem of delivering support services to off-campus students, library personnel were also acutely aware of diminishing state funds for collection development.

With the recession, property tax dollars used to support public and school libraries and community services were declining. Costs for all community services, including fire and police, were increasing. Communities could no longer afford to automatically support local libraries if it meant reducing public safety and other basic services. Libraries in the region, despite an active interlibrary loan system, stood alone. Distances between communities did not facilitate easy communications or resource sharing. As a result, local libraries duplicated limited collections, with acquisitions being directed at serving the interests of "traditional" library patrons, not college-level students, businesses or professionals. Another factor identified by college library personnel was

the changing student and faculty academic and research demands. Advancements in all fields meant that, if the library was to support Eastern Oregon State College students and faculty in remaining competitive, the library had to become a multifunctional information services center.

Library personnel proposed a computer-based interactive (simultaneous) online database searching and telefacsimile network be developed based on an urban model established at a Tucson Medical Center to overcome information delivery problems. Telecommunications improvements, the availability of relatively inexpensive personal computer equipment and management of public and commercial information by computer in electronic databases made a cooperative library network practical.

A pilot program was established in 1982 with a small grant from the Oregon Community Foundation to test the feasibility of the proposed library network. The pilot project, emulating the Tucson Medical Center program, offered online database search service to medical personnel working in remote, rural medical facilities in eastern Oregon. Two computer terminals were rotated between regional hospitals and medical clinics to test the possibility of delivering information instantaneously to physicians, nurses and other medical personnel, whether they were located in La Grande or a site 200 miles away.

The two-year network test proved successful. Physicians and medical personnel were able to access centralized medical databases on demand, review bibliographies and obtain materials almost immediately. The network itself was quite simple. It involved a computer terminal at a hospital or clinic, a modem, a printer and a telephone which was linked with the college's library, the master search site. The results were that medical personnel received abstracts immediately. This proved to be critical in a number of life-threatening situations. After the abstracts were reviewed and the appropriate articles identified, copies were mailed to the site if required.

Based on the success of the pilot project, the college was encouraged to expand the computer network to provide broad-based services through public libraries. Applications for funding support were submitted to the Oregon State Library and the Fred Meyer Charitable Trust to help underwrite project costs. Suggestions made by state library and foundation personnel, coupled with experiences gained through the pilot project, resulted in adding telefacsimile equipment to improve document delivery services.

The project, originally titled the Simultaneous Remote Searching/ Telefacsimile System (SRS/FAX Network), today includes 20 multi-type libraries (8 public, 7 hospital, 4 academic and 1 state library) and two county-wide school districts. With the placement of microcomputers and telefacsimile equipment throughout the area, the model network is providing a rural population improved access to information through the use of computer database searching and vastly improved document delivery with the telefacsimile system.

PROJECT DESCRIPTION

Status and Accomplishments

The Online Reference/Document Delivery Library Network project has introduced information services equipment and technology to rural east Oregonians who, generally, had not previously been exposed to computer and telefacsimile equipment capabilities. Communities in the ten eastern-most counties of Oregon have gained access to computer online bibliographic searching and to a variety of other information services through the project. These services include the instantaneous delivery of search results and documents. Document delivery through interlibrary loan has been reduced from ten or more days to less than a week on average. Telefacsimile capabilities provide rapid turnaround for time critical materials.

Acceptance of the project has grown from a core of brave librarians who cautiously approached the computer and telefacsimile equipment to over 90 percent of the librarians now using the services on a regular basis. Information needs are complex and must be satisfied using a variety of sources. The bibliographic information generated through the online database search process proved to be only a stepping stone to satisfying the growing client demand for information services. That program continuation is being supported by participating libraries is evidence and recognition of project success. Participating librarians and clients report positive responses from the constituents because of the project.

The system was named the Simultaneous Remote Searching (SRS) system in order to describe its characteristics. Simultaneous meaning the person requesting the search can view the search in progress and react positively or negatively regarding findings. Remote means that the person requesting the search need not be at the master site library, but at another library or other location equipped with a computer, modem, printer and telephone service.

The SRS system ties together three physically-separated sites via computers. The first site, the vendor, supplies the database. The second site, Eastern Oregon State College, is the subscriber to the vendor's database and the master search site. The third site, the library, medical clinic or business, is the end-user of the database information.

The SRS system allows the end-user, the library patron to access databases at a reasonable cost. It is expensive to subscribe to commercial databases. Online database searching also involves a number of costs besides the initial subscription costs. There are charges for accessing databases, for citations retrieved, equipment maintenance and repair, telecommunications and operating supplies. And the major cost is hiring an experienced online search librarian and/or training a librarian for the task.

The cost to individual libraries is reduced by the master site library subscribing to vendor databases. Individual small public libraries need not have a trained online search librarian because the master search library conducts the database search. The searching is accomplished by librarians who work in a variety of databases regularly, are familiar with their content and are adept at search

procedures. As a consequence, the cost of database access per search (the major expense to the library patron) is reduced.

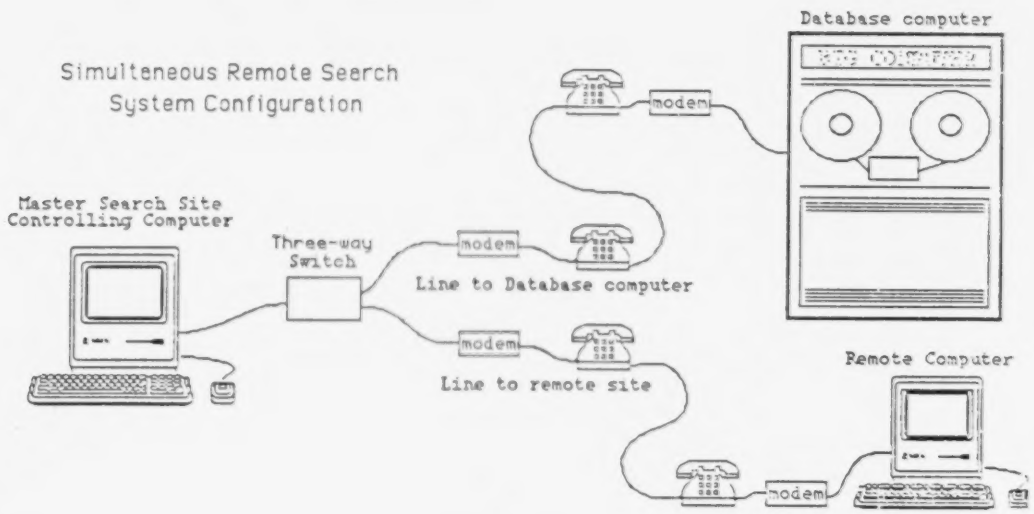
The idea of the "super searcher" network was proposed in the initial project application. Efforts to establish a network of searchers continues. Positive collaborative working relationships have developed with specialized searchers at a number of sites assisting one another in the areas of law, technology transfer, patents and medicine. Promoting network development that will encourage new relationship development and resource sharing is receiving continued attention.

It has become apparent over the two and one-half year project that library staff members need continued training and support. This ongoing support includes market development assistance -- explaining the need to prepare for and build infrastructure for participation in the information age.

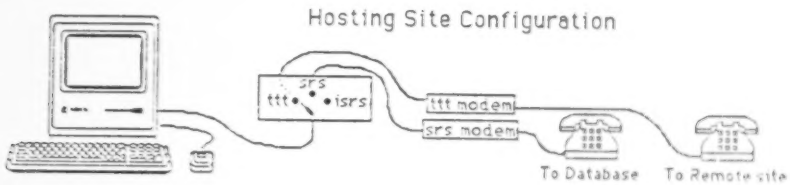
SRS/FAX Network Operation

Equipment required for an SRS system includes a computer, modem, printer, telephone service at each site and a three-way switch at the master library site. A telefacsimile machine, while not, necessary,greatly improves turn- around time for document delivery.

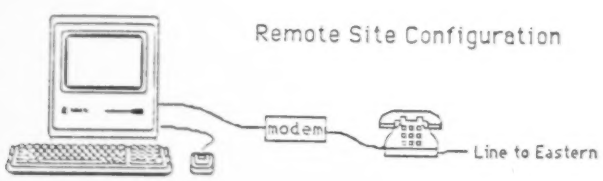
Three computers are linked together to access a database: the computer at the remote location used by the librarian to provide service to the patron requesting a search; the master site library's computer; and the computer which contains the file to be accessed from those national and regional database systems maintained by private or public sources (which the network has subscribed to or has permission to use). After an initial reference interview over the telephone, interaction (from terminal to terminal) occurs as the master search librarian asks questions of the individual at the remote library via the computer. While the master site librarian performs the database search, the librarian and patron at the remote site who have requested the search view the results. The librarian or patron requesting a search can have input at any time while the search is in progress to comment, ask questions or redirect the search.



Eastern Oregon State College staff members have found that two master search site work stations are desirable to allow for more than one search to be in progress at the same time. The college equipped one station with a Macintosh Plus and the other station with a Macintosh SE microcomputer, both with 20mg hard disk drives. While Macintosh equipment was selected for the model project, any microcomputer can be used. It is recommended, for efficiency, that the microcomputer have a minimum of 20 megabyte hard disk capacity. Each of the master search work stations must be equipped with a printer, modem and two telephone lines. The remote site and the commercial database are connected through the master search site by a three-way switch. The TGM Trialogue Switch was used for the project. Other similar switching devices are available and/or a three-way switch can be assembled using off-the-shelf parts and schematics available in literature published by the Trialogue Switch designer, Rodes Trautman. A master search library work station must also be supplied with Macterminal or other compatible telecommunications software. Diagram 2 illustrates the master search site work station equipment configuration.



Equipment needed at the remote library or "user" site is a microcomputer, printer, modem and telephone service. Network library work stations were each equipped with a Macintosh 512KE microcomputer and 800K external disk drive, an Imagewriter II printer and an Apple Personal modem. Again, any microcomputer with modem, printer and telecommunications software will work. One telephone line capable of direct dial out is also required. Diagram 3, which follows, illustrates how network search site work station equipment is organized. The Macintosh computer was selected for its reported user-friendliness, reasonable cost, and adaptability to other library applications. Each network library has also been supplied with software programs for word processing, graphics and book processing.



A true enhancement to the project has been the telefacsimile machine. The ten-county region in eastern Oregon served by the project is isolated and has no metropolitan center where ready access to many professional and scholarly journals would be available. Yet with the SRS/telefacsimile combination, the master search site can generate a bibliography for the patron which can be reviewed while still connected to the master search library and vendor database. Additional citations can be sought, if required, and specific citations ordered which satisfy the requester's

information needs. The articles are then obtained for the client from the closest possible source and sent to the requesting library -- with same day service via telefacsimile if required.

Electronic Mail System

As with all projects, new ideas are generated as a program develops which complement the overall plan and enhance the original concept. The electronic mail system instituted by Eastern Oregon State College was an idea which proved to solidify the overall objectives of cooperation and resource-sharing within the network. In the last quarter of the grant period, Eastern Oregon State College set up a host computer with electronic mail software. The electronic mail system is accessible to all network sites through a toll-free telephone number. Among other features, the electronic mail program contains a file of the union list of serials representing most of the network participants' holdings. The union list of serials file enables each site to locate material within the network and generate their own interlibrary loan requests, whether the material is held at Eastern Oregon State College or by another network member.

Initially the libraries were requesting all interlibrary loans -- either from SRS-generated bibliographies or patron subject requests -- through Eastern Oregon State College, consequently taxing the resources of an already strained interlibrary loan department. As program services gained popularity and librarians became more confident with the system, the college's interlibrary loan activity increased 47 percent over the previous year, 1986; all on a half-time interlibrary loan clerk's position. With the implementation of the electronic mail system, the sites are now able to handle their own interlibrary loan requests by using the network's union list of serials, then dropping interlibrary loan messages into the holding library's electronic mailbox. Generally eliminating the need for the college's interlibrary loan department involvement, this not only spreads the workload more evenly among network participants, but also has made members more aware of regional resources.

Needs and Opportunities

Network librarians indicate that they have gained the expertise, comfort level and degree of ability to use the equipment to ensure full use of system capabilities, i.e., an ability and willingness to continue to learn new applications.

Project objectives have been achieved. All network librarians received training in the use of microcomputers for online database searching, SRS techniques and other library applications, i.e., they have become computer literate. New clients from the business and professional communities, previously an underdeveloped client base for most rural libraries, are being served. New marketing strategies have been introduced to attract these clients. Librarians realize the need to strengthen and continue the marketing effort to develop long-term community support.

Technical problems encountered were minor and largely involved the installation of direct telephone service lines to the library that bypassed the college's switchboard. Equipment selected for the project performed to expectation. The manufacturers and vendors were cooperative and provided adequate training and service support.

Project Tasks and Activities

Training:
Multi-stage training was provided. Three on-campus workshops were offered and a minimum of six "formal" training visits were made to each site. It is presumed that the training was effective based on the following:

a. positive evaluations of the training by participants;
b. continued growth in the use of computer equipment and program activities;
c. reported use of the computer equipment for library management and associated tasks;
d. a forty-eight percent increase in the last twelve months in interlibrary loan transactions -- the majority of transaction are now being completed using the electronic mail system;
e. requests for assistance and advice regarding new computer software applications initiated by network libraries.

Workshops focused on introduction to telecommunications technology, computer and software operations and applications. An opportunity to experiment with word processing, graphics and library management software was provided in a non-threatening laboratory setting. Project staff were assisted in the workshops by Oregon State Library and Apple Computer, Inc. staff members.

Promotion and Marketing:
It was proposed in the original application that network librarians would be trained in basic online database searching. It was anticipated that local librarians would want to do some independent limited searching as a marketing tool. This training was not provided because of the lack of demand. Network librarians indicated that they lacked staff time to develop the expertise needed to conduct cost-effective searches themselves. They expressed a desire, given the periodic need for online searching, to continue developing the cooperative working relationships with the "expert" searchers at the college. The primary marketing tool has instead become the on demand accessibility of searchers at the college library coupled with the "quick" delivery of documents through improved interlibrary loan and telefacsimile services.

Presentations and demonstrations about network services have been made to special interest groups and at local, regional, state and national workshops and conferences. As a result, project staff members have been involved in a variety of related service delivery efforts -- to bring multiple information delivery system services to rural Oregon and to help establish other networks. These efforts include assisting a thirteen-county mental health services group to implement an electronic mail and conferencing network and participating in the development of the Oregon NASA Industrial Application Center Affiliate program. Requests have also been received from rural school superintendents to assist them establish a communications network. These efforts have resulted in an increase in the use of library services and a recognition of the need for cooperative networking to improve services in rural Oregon. These developing networks will be interlinked with project libraries to provide them improved information services.

Impact:
Evidence supports the fact that online database searching is an important and necessary tool when coupled with telefacsimile document delivery and efficient interlibrary loan services. However, the population base in the rural communities does not support the demand, except in very specialized circumstances, for community libraries to develop an independent online computer searching capacity. A cooperative effort that assigns shared responsibilities for services and developing searcher expertise is more cost-effective. The issue and challenge is to develop networking that is more than simple, first-level information sharing. The project has been successful only because of achieving second- and third-level networking with new cooperative relationships being developed. The impact of defining new cooperative working relationships is, we believe, more significant than those issues that were defined in the original funding application.

The project goals have been met. Eastern Oregon librarians are computer literate and are comfortable with the use of new technologies to improve library services. A local network is in place and is ready for inclusion in state-wide telecommunications programs as they are developed. Too, the regional librarians are prepared to utilize the Oregon Public Access Catalog when it is accessible.

Staffing:
Dr. Verl Anderson served as director for the first year of the project. He accepted a faculty teaching position in the School of Administrative Studies and assisted with project activities the second year. Ms. Patricia J. Cutright, who was project manager, succeeded Dr. Anderson as project director. Mrs. Mary Fiorillo, Public Services Librarian, assisted Ms. Cutright with program management, administrative activities and client services. Project success has, in-large-measure, been a result of staff continuity and their ownership of the program. Another contributing factor has been the support of Eastern Oregon State College's senior administrators who have planned for and provided continuation funding for program staffing.

Project Costs:
The availability of online database searching is a necessary tool if rural communities are to be competitive in the Information Age. Access to computer-based information is too costly for the majority of small rural libraries to provide without substantial subsidies. The need for these subsidies can be, to a degree, mitigated by developing cooperative working relationships.

It is expensive to subscribe to commercial databases. Online database searching also involves a number of costs besides the initial subscription. There are charges for accessing databases, for citations retrieved, equipment maintenance and repair, telecommunications and operating supplies. And the major cost is hiring an experienced online search librarian and/or training a librarian for the task.

The cost to individual libraries is reduced by one "master site" library subscribing to vendor databases. Individual small public libraries need not have a trained online search librarian because the master search library conducts the database search. The searching is done less expensively as it is accomplished by librarians who work in a variety of databases on a regular basis, are familiar with their content and are adept at search procedures. As a consequence, the cost of database

access per search (the major expense to the library patron) is reduced. Subsidized toll-free telephone service is an important program component in terms of making the service fully accessible.

In the two and one-half years the online database system has been in operation, network libraries have requested an average of 20 searches a month at an average subsidized cost of $7.21 per search for commercial online database access. If the search was processed by an individual library through subscription to commercial databases, the average search cost is estimated to be $14.22 per search. The $14.22 per search estimate is based on statistical data in recent library literature and does not include personnel costs. In short, there are distinct economic and quality of service advantages for networking online database search services in rural areas.

Searching costs in a network requiring full cost recovery would, we believe, severely limit online database searching to larger companies and the more affluent. This will inhibit the development of small businesses, adversely impact the delivery of public services and make rural communities less competitive overall. It is recommended that public policy makers give serious consideration to providing subsidized access to information services.

At the same time, librarians and other information service brokers must examine new and more affordable means of providing information access. Eastern Oregon State College is, as an outgrowth of this project, exploring the delivery of CD-ROM database access online in a simultaneous mode in order to reduce database access costs. Other technologies and applications must be explored as well.

Problems and Solutions

The project experienced one major problem that threatened its effectiveness. Two other minor problems also required a change in the way the online database searching and telefacsimile service was provided.

Major Problem: Existing incoming and outgoing toll-free telephone lines were inadequate to handle the college's general telephone usage and network activities.

Solution: The SRS system was installed in the library using the existing telephone lines in the Project Director's office. Very early in the project it became apparent that the college's toll-free lines were becoming overburdened with the network's activities. Librarians from outlying communities complained about the difficulty they were encountering making contact with the college library over the toll-free lines and about patron dissatisfaction with having to wait to make contact. The manual transfer of incoming computer-initiated calls by the college's switchboard operator to the searching equipment was extremely unreliable and caused problems. It was also discovered, after the fact, that data transmission on the outgoing college SPAN line was prohibited by administrative policy. To solve this problem toll-free incoming and outgoing telephone lines were installed directly to the library. Direct contact became possible without going through the college switchboard and general purpose telephone lines.

Problem: Time needed to complete a Simultaneous Remote Search can be prohibitive if the remote library is short-staffed.

Solution: Sites found the actual time needed to work with a patron to complete a simultaneous remote search (an average of 30 to 45 minutes) was sometimes prohibitive when it was very busy in the remote library or if there was only one librarian on duty. To alleviate the frustration caused by the lack of time to dedicate to the process on those occasions, the master search site conducted the online literature search in a non-simultaneous mode and then downloaded search results to the remote site at a time convenient to them. The preferred strategy, not yet implemented, except on a few occasions, is to allow the patron to control the search at the remote site in an interactive mode with the master search librarian.

Problem: The telefacsimile service can, on occasion, be labor-intensive.

Solution: All telefacsimile machines distributed were of a model to handle light to medium transmission volume. Library staff often found themselves at the telefacsimile machine for twenty to thirty minutes sending one document to multiple locations or redialing busy telephone numbers. This lead to upgrading to a heavy volume machine to take advantage of time-saving features such as store-forward, job reservation and auto redial. These features allow library staff members to load the telefacsimile machine with documents, program the machine for each activity and leave it largely unattended to send materials to one or more separate locations. High-volume equipment was purchased in the last quarter of the grant period to solve the staff/time problem.

The Project as a Model

Data indicates that the project has been a successful model. The network has been replicated -- University of South Dakota, Montana State Law Library, Oregon State Library are three examples -- and has served as a model for improving and establishing interlibrary linkages for resource sharing, cooperative collection development and improved document delivery. Costs of continued operation of the network have been planned for and absorbed by Eastern Oregon State College and the participating libraries.

CONCLUSIONS

Quarterly and final evaluation questionnaires were sent to network participants. Respondents called attention to system development problems through the evaluation process allowing for quick intervention. Their cooperation in the evaluation process is reflected in the positive final project evaluation.

The summary final evaluation data reported largely stand alone, comments have been incorporated in the comparison of responses to the April 1987 and final questionnaire regarding specific items. All comments by respondents have also been included.

The 34-month long SRS/FAX Network Project supplied computers and telefacsimile machines to rural libraries, opening the door for other innovation. As Eastern Oregon librarians become more comfortable with the computer and communications technology, they have become supportive of other innovation efforts. For example, an integrated online catalog of holdings in libraries in the ten counties will help locate any material in the region.

The project accomplished its goals of establishing interactive online database searching and improving document delivery services. But the major benefit is the spirit of cooperativeness that has developed. This spirit is exemplified by the result of a retreat which took place in the last quarter of the grant period. The retreat, attended by network librarians and many other school and public librarians, focused on developing regional goals and strategies for providing improved library service to all east Oregonians. Short- and long-range goals, objectives and an action plan were established for the region and will be used to communicate program needs to patrons and policy makers.

APPENDIX

SRS/FAX NETWORK PROJECT

LINE ITEM SUMMARY
12/86 through 11/88

PERSONNEL

SRS Project Director (.50 FTE)
Online Ref. Librarian (1.0 FTE)
Reference Librarian (.50 FTE)

OPERATING EXPENSES

Site Training
- Central Training (Initial workshop held at EOSC)
- Site Visit (Initial workshop held at remote library site)
- Central Training (Midterm, held at EOSC)
- Site Visit (Midterm, held at remote library site)
- Central Training (Final, held at EOSC)

Demonstration searches
Telephone Toll-free lines (In and out)
Supplies (Including remote sites)
Library Materials and manuals

EQUIPMENT FOR TRAINING

Apple Macintosh computers
- 18 Macintosh 512K Enhanced with built in 400k drive, 800k ext. drive
- 4 Macintosh Plus with 20 mg hard disk drive
- 2 Macintosh SE with 20 mg hard disk drive

24 Imagewriters II with cable
24 Surge protectors
2 Trialogue switches
18 Xerox telecopiers
1 MacViewFrame Projection Display Screen

SIMULTANEOUS REMOTE SEARCHING (SRS) NETWORK

TYPES OF ORGANIZATIONS

COMMUNITIES

1. Baker County Public Library
2. Boardman City Library
3. Gilliam County Library
4. Hermiston Public Library
5. Joseph City Library
6. Malheur County Public Library
7. Milton-Freewater Public Library
8. Pendleton Branch Library

HEALTH SERVICES

1. Good Shepherd Hospital
2. Grande Ronde Hospital
3. St. Anthony Hospital
4. St. Charles Medical Center
5. St. Elizabeth Community Hospital
6. Wallowa Memorial Hospital
7. Sacred Heart General Hospital

HIGHER EDUCATION

1. Blue Mountain Community College
2. Eastern Oregon State College
3. Southwestern Oregon Community College
4. Treasure Valley Community College

SCHOOLS

1. Grant County E.S.D. (network services 15 schools in this district)
2. Burns Union High School

STATE LIBRARY

1. Oregon State Library

SRS/FAX NETWORK
SITE LOCATIONS

SIMULTANEOUS REMOTE SEARCH NETWORK
SITE DIRECTORY

SITE LOCATION	CITY POPULATION	COUNTY POPULATION	COUNTY AREA sq. mi.
BAKER Baker County Public St. Elizabeth Hospital	9,490	16,200	3,089
BEND St. Charles Med. Center	18,450	65,400	3,055
BOARDMAN Boardman Public Library	4,440	7,570	465
BURNS Burns Union High School	2,810	7,100	10,228
CANYON CITY Grant County E.S.D.	615	8,050	4,528
CONDON Gilliam County Library	710	1,800	1,223
ENTERPRISE Wallowa Mem. Hospital	2,075	7,420	3,153
EUGENE Sacred Heart General Hospital	106,100	269,500	4,620

SITE LOCATION	CITY POPULATION	COUNTY POPULATION	COUNTY AREA sq. mi
HERMISTON Good Shepherd Hospital Hermiston Public Library	9,896	60,000	3,231
JOSEPH Joseph Public Library	1,175	7,420	3,153
LA GRANDE Eastern Oregon State College Grande Ronde Hospital	12,340	24,800	2,038
MILTON-FREEWATER Milton-Freewater Public Library	5,820	60,000	3,231
ONTARIO Malheur Co. Public Library Treasure Valley Community College	9,510	27,800	9,926
PENDLETON Blue Mountain Community College Pendleton Branch Library St. Anthony Hospital	14,400	60,000	3,231
SALEM Oregon State Library	94,600	252,200	1,939

ONLINE REFERENCE SERVICE TO EASTERN OREGON LIBRARIES PROJECT

QUARTERLY SERVICE EVALUATION BY PARTICIPATING LIBRARY STAFF

Please fill in the blanks for all items according to the directions for each item. Return to Terry Egvalson, Eastern Oregon State College Regional Services Institute, in the enclosed postage paid envelope. Thank you for your assistance.

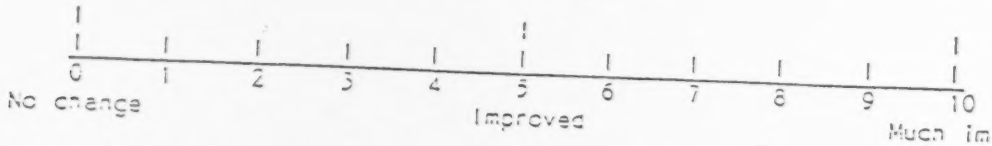
1. Check one: a. _____ Library administrator b. _____ Other library staff

2. Date evaluation form completed: _____

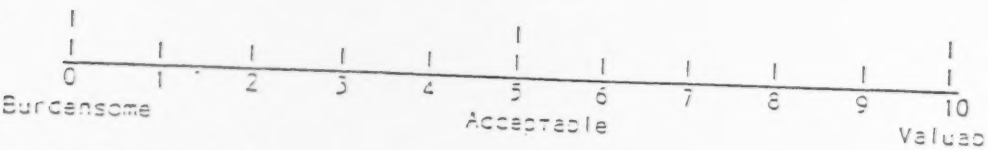
3. Name of Library: _____

4. Length of time you have participated in the project: _____ yrs. _____ mos.

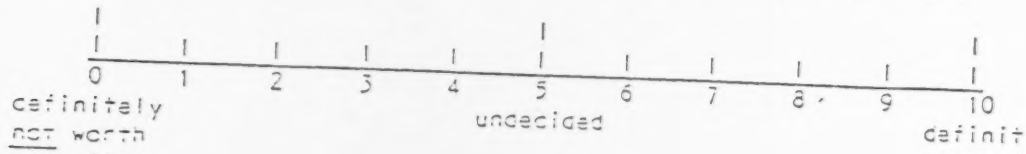
5. To what extent has the implementation of this project improved your ability to provide reference services to library patrons?



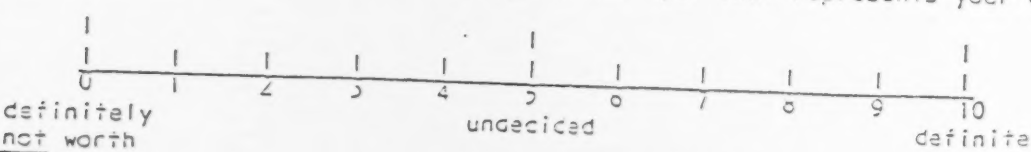
6. How would you describe the necessity of project record keeping in assisting you to evaluate the services provided patrons? (Mark an X on the line in the spot that best represents your opinion.)



7. How do you evaluate the results of using online database searching in improving services to your patrons given the time and effort you have put into the project? (Mark an X on the line in the spot that represents your opinion.)



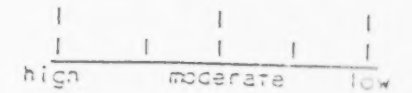
8. How do you evaluate the results of using telefascimile for document delivery in improving services to your patrons given the time and effort you have put into the project? (Mark an X on the line in the spot that represents your opinion.)



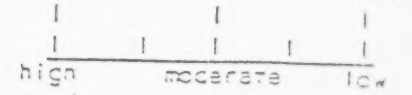
BEST COPY AVAILABLE

9. Please evaluate your experience with using the computer in this project. Indicate by marking an X on the line next to each item the level of need for or availability of computer services:

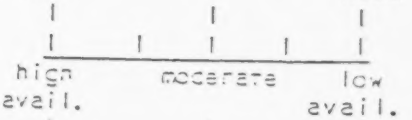
a. need for assistance with software



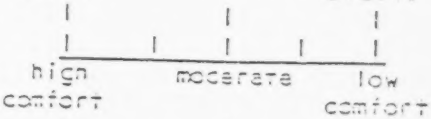
b. need for assistance with technical problems



c. availability of technical assistance

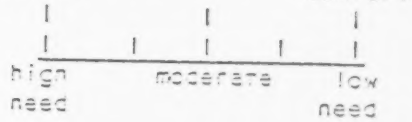


d. general comfort level with the computer



e. need for further training (identify specific areas in this blank)

_____



10. Of the time you spend using the computer, estimate what percentage of time you use the computer for the following tasks:

a. for online reference _____%

b. for interlibrary loan _____%

c. as a communications device within the network _____%

d. as an aid in other administrative activities _____%

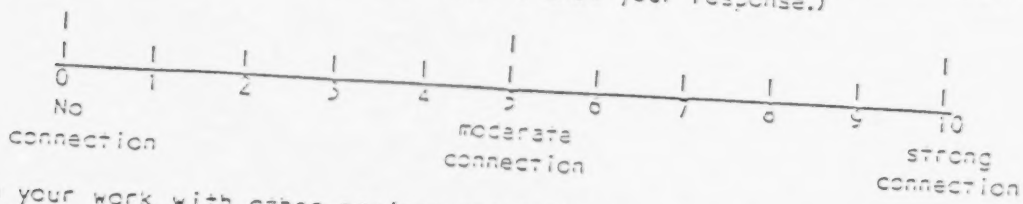
11. How would you evaluate the quality of your contact and communication with the following, both before and after implementation of the project? (Circle the number that applies in each column, using these descriptions: 5 = high; 3 = average; 1 = low)

	Before Implementation					Currently				
a. EOSC Library	5	4	3	2	1	5	4	3	2	1
b. State Library	5	4	3	2	1	5	4	3	2	1
c. Sacred Heart	5	4	3	2	1	5	4	3	2	1
d. Other Network Libraries	5	4	3	2	1	5	4	3	2	1
e. Library Patrons	5	4	3	2	1	5	4	3	2	1

12. What level of support for your participation in the network do you receive from the following? (Circle one, using the scale of 5 = high; 3 = average; 1 = low.)

	High				Low
a. EDSC Library	5	4	3	2	1
b. State Library	5	4	3	2	1
c. Sacred Heart	5	4	3	2	1
d. Other Network Libraries	5	4	3	2	1
e. Library Patrons	5	4	3	2	1

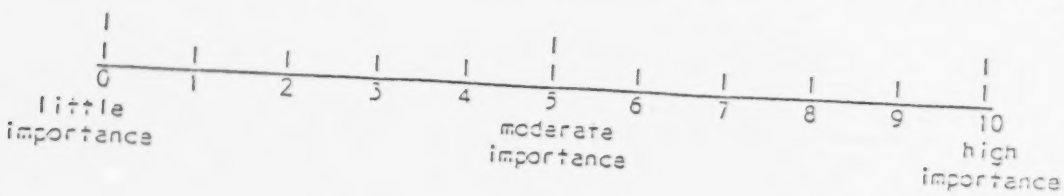
13. What connection is there between the amount of communication you have with other network libraries and your ability to provide improved services to your patrons? (Mark an X on the line to show your response.)



14. In your work with other project participants and equipment in project, what level of access do you have to the following? (Circle the appropriate number, using the scale of 5 = high; 3 = moderate; 1 = low.)

	High				Low
a. access to EDSC support personnel	5	4	3	2	1
b. access to other support personnel	5	4	3	2	1
c. electronic mail messages	5	4	3	2	1
d. quick electronic mail turnaround	5	4	3	2	1
e. access to computer for online searching	5	4	3	2	1
f. access to computer for other uses	5	4	3	2	1
g. access to interlibrary loan materials	5	4	3	2	1

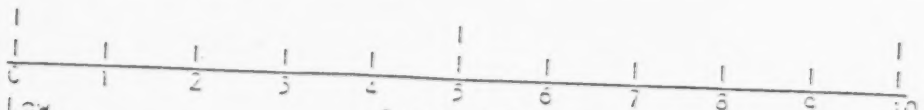
15. Think about your use of the "bulletin board" and electronic mail features of the computer-based communications system and indicate its overall importance to you in library management, obtaining assistance, materials sharing, etc. (Mark an X on the line in the spot that best represents the importance of these program capabilities to you.)



16. Please rate the usefulness of the training you have received in connection with the project. (Circle the appropriate number, using the scale of 5 = high; 3 = moderate; 1 = low.)

	High				Low	
a. Initial computer training session	5	4	3	2	1	N/A
b. Initial fascimile training session	5	4	3	2	1	N/A
c. Followup training session(s)	5	4	3	2	1	N/A
d. Scheduled site visits	5	4	3	2	1	N/A
e. Trouble shooting	5	4	3	2	1	N/A

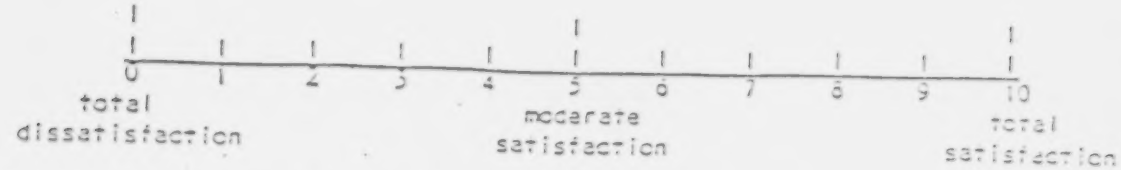
17. How would you evaluate the overall progress of the online reference service project implementation in your library? (Mark an X on the line in the spot that best represents your opinion.)



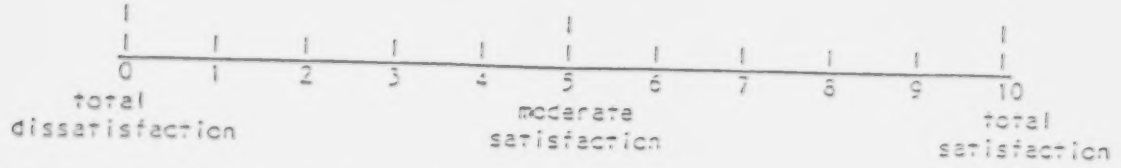
18. How would you evaluate your patrons' level of awareness and response to the services provided by the project? (Circle the number that shows the frequency of patrons' responses for each item.)

	almost never				very frequently	
a. Patrons make positive comments about online database searching.	1	2	3	4	5	
b. Patrons make positive comments about the telefascimile document delivery service.	1	2	3	4	5	N/A
c. Patrons make use of the online database and/or telefascimile services on a repeat basis.	1	2	3	4	5	
d. Patrons have requested that they be trained in using the computer for carrying out their own searches.	1	2	3	4	5	
	not aware				very aware	
e. Patrons are aware of the online database searching capability.	1	2	3	4	5	
f. Patrons are aware of the telefascimile service	1	2	3	4	5	

19. What is the overall level of patron satisfaction with the online database searching service? (Mark an X on the line in the spot that best represents your opinion.)



20. What is the overall level of patron satisfaction with telefacsimile document delivery service? (Mark an X on the line in the spot that best represents your opinion.)



21. Your comments about how the online reference service project can be improved, patron comments, specific problems which require attention, etc.:

SRSFORMS 5/6/86

ONLINE REFERENCE SERVICE TO EASTERN OREGON LIBRARIES PROJECT

SRS FINAL SERVICE EVALUATION
BY PARTICIPATING LIBRARY STAFF

N = 20 (100% Response as of December 12, 1988)

4. Length of time participating in the project.

N = 17 AVG: 23.88 months MEAN: 19.00 months

5. To what extent has the implementation of this project improved your ability to provide reference services to library patrons?

0 = no change
5 = improved N = 19 AVG: 7.82 MEAN: 5.50
10 = much improved

6. How would you describe the necessity of project record keeping in assisting you to evaluate the services provided patrons?

0 = Burdensome
5 = Acceptable N = 20 AVG: 6.30 MEAN: 5.00
10 = Valuable

7. How do you evaluate the results of using online database searching in improving services to you patrons given the time and effort you have put into the project?

0 = Definitely not worth the effort
5 = Undecided N = 19 AVG: 7.53 MEAN: 5.00
10 = Definitely worth the effort

8. How do you evaluate the results of using telefacsimile for document delivery in improving services to your patrons give the time and effort you have put into the project?

0 = Definitely not worth the effort
5 = Undecided N = 17 AVG: 8.53 MEAN: 6.00
10 = Definitely worth the effort

9. Please evaluate your experience with using the computer in this project.
(5 = high 3 = moderate 1 = low)

	N	AVG	MEAN
need for assistance with software	20	2.38	3.00
need for assistance with technical problems	20	3.03	3.00
need for further training	20	3.23	3.00
availability of technical assistance	20	4.23	3.50
general comfort level with the computer	19	2.37	3.00

10. Of the time you spend using the computer, estimate what percentage of time you use the computer for the following tasks:

	N	AVG	MEAN
for online reference	20	22.80%	45.50%
for interlibrary loan	20	14.50%	26.00%
as a communications device within network	20	7.35%	13.00%
as an aid in other administrative activities	20	47.65%	50.50%

11. How would you evaluate the quality of your contact and communica tion with the following both before and after implemenation of the project? (1 = low 3 = average 5 = high)

	Before			After		
	N	AVG	MEAN	N	AVG	MEAN
EOSC Library	16	2.38	3.00	20	4.30	3.00
State Library	15	2.60	3.00	18	2.72	3.00
Sacred Heart	15	1.13	2.00	18	1.94	3.00
Other Network Libraries	16	1.56	2.00	19	2.95	3.00
Library Patrons	17	3.06	3.00	20	4.15	4.00

12. What level of support for your participation in the network do you receive from the following? (1 = low 3 = average 5 = high)

	N	AVG	MEAN
EOSC Library	20	4.65	3.50
State Library	19	2.53	3.00
Sacred Heart	19	1.79	3.00
Other Network Libraries	20	2.50	3.00
Library Patrons	20	3.45	3.00

13. What connection is there between the amount of communication you have with other network libraries and your ablity to provide improved services to your patrons?

0 = no connection
5 = moderate connection N = 20 AVG: 5.50 MEAN: 5.00
10 = strong connection

14. In your work with other project participants and equipment in project, what level of access do you have to the following? (1 = low 3 = average 5 = high)

	N	AVG	MEAN
access to EOSC support personnel	20	4.50	3.50
access to other support personnel	20	3.35	3.00
electronic mail messages	19	4.21	3.00
quick electronic mail turnaround	18	4.11	3.00
access to computer for online searching	20	4.45	4.00
access to computer for other uses	20	4.65	4.00
access to interlibrary loan materials	20	4.15	3.00

15. Think about your use of the "bulletin board" and electronic mail features of the computer-based communications system and indicate its overall importance to you in library management, obtaining assistance, materials sharing, etc.

0 = little importance
5 = moderate importance N = 20 AVG: 6.18 MEAN: 5.00
10 = high importance

16. Please rate the usefullness of the training you have received in connection with the project. (1 = lov 3 = average 5 = high)

	N	AVG	MEAN
initial computer training session	20	2.65	2.50
initial facsimile training session	20	2.65	2.50
followup training session(s)	20	3.80	3.00
scheduled site visits	20	3.90	2.50
trouble shooting	20	4.00	2.50

17. How would you evaluate the overall progress of the online reference service project implementation in your library?

0 = lov implementation
5 = operational N = 19 AVG: 7.11 MEAN: 6.00
10 = full implementation

18. How would you evaluate your patrons' level of avareness and response to the services provided by the project?

1 = almost never 5 = very frequently

	N	AVG	MEAN
patrons make positive comments about online database searching.	20	3.20	3.00
patrons make positive comments about telefascimile document delivery service.	20	3.40	2.50
patrons make use of the online database and/or telefascimile services on a repeat basis	20	3.50	3.00
patrons have requested that they be trained in using the computer for carrying out their own searches	20	1.60	3.00

1 = not avare 5 = very avare

	N	AVG	MEAN
patrons are avare of the online database searching capability	20	3.05	3.50
patrons are avare of the telefascimile service	19	2.95	2.50

19. What is the overall level of patron satisfaction with the online database searching service?

0 = total dissatisfaction
5 = moderate satisfaction
10 = total satisfaction

N = 19 AVG: 7.26 MEAN: 6.50

20. What is the overall level of patron satisfaction with the telefascimile document delivery service?

0 = total dissatisfaction
5 = moderate satisfaction
10 = total satisfaction

N = 17 AVG: 8.00 MEAN: 5.50

SEARCHING CONTACTS PER MONTH

October, 1986 through October,1988

Library	Prior Month	Month 20	21	22	23	24	TOTAL
Baker County	19	4	0	0	5	0	28
Blue Mtn. C. C.	9	0	0	0	0	0	9*
Boardman	58	3	1	8	10	4	84
Burns Union H.S.	13	1	0	0	0	2	16
Gilliam County	21	0	3	0	0	0	24
Good Shepherd	23	3	1	2	0	1	30
Grande Ronde	15	2	0	0	0	2	19
Grant Co. ESD	31	0	0	0	2	0	33
Hermiston	35	0	0	1	1	0	37
Joseph	13	0	0	0	0	0	13
Malheur County	6	1	0	0	0	1	8
Milton-Freewater	26	1	0	0	0	1	28
Oregon State Lib.	11	0	0	0	0	0	11**
Pendleton Branch	15	3	0	0	0	1	19
Sacred Heart	4	0	0	0	0	0	4**
St. Anthony	7	0	0	0	0	0	7
St. Charles	13	0	0	0	0	0	13*
St. Elizabeth	12	1	0	4	3	0	20
Treasure Valley	11	3	0	0	2	1	17*
Wallowa Memoral	11	0	0	0	0	0	11
TOTAL	353	22	5	15	23	13	431

Notes: * Sites now performing in-house online searching. EOSC provides backup and specialized assistance, e.g., NASA IAC

** Resource sites providing patent searches, document retrieval and medical search support. The number of clients and searches stabilized indicates that we are adding to a growing client base -- few clients need regular searching services. Another factor is that starting in March 1988 the public libraries are charged a standard searching fee of $3.00 per five minutes to cover online database costs. Marketing must continue to receive attention to expand the client base and develop broad community awareness about the program.

TELEFACSIMILE TRANSMISSION SUMMARY for EASTERN OREGON STATE COLLEGE LIBRARY

Dec. 1986 through October 1988

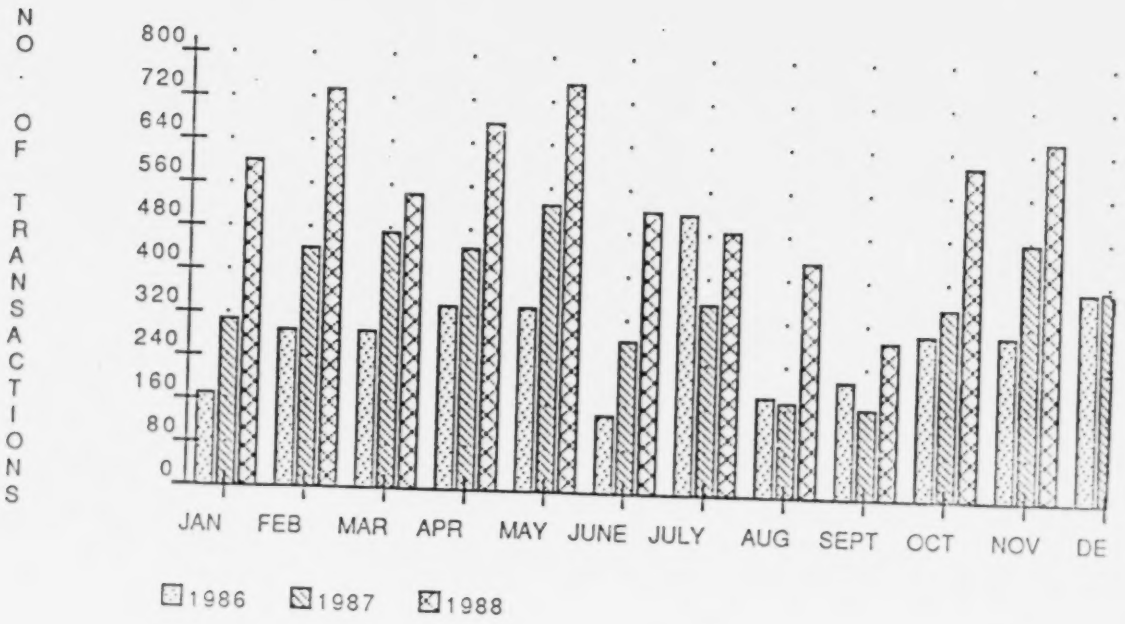
	PAGES SENT			PAGES RECEIVED			
YEAR/MO.	I.L.L.	COURIER	TOTAL	I.L.L.	COURIER	TOTAL	TOTAL
1986							
Dec	30	26	56	14	29	43	99
1987							
Jan	25	28	53	13	5	18	71
Feb	22	13	35	40	7	47	82
Mar	17	63	80	8	-0-	8	88
Apr	27	21	48	13	13	26	74
May	78	78	156	109	22	131	287
June	33	40	73	12	14	26	99
July	35	68	103	24	54	78	181
Aug	4	86	90	34	62	96	186
Sep	78	65	143	34	102	136	279
Oct	40	31	71	4	43	47	118
Nov	45	58	103	108	55	163	266
Dec	8	55	63	14	116	130	193
1988							
Jan	36	147	183	5	176	181	364
Feb	84	146	230	99	359	458	688
Mar	24	201	225	22	355	377	602
Apr	67	294	361	11	430	441	802
May	77	297	374	130	331	461	835
June	34	170	204	66	244	310	514
July	34	366	400	4	425	429	829
Aug	55	343	398	38	498	536	934
Sept	49	498	557	7	510	517	1074
Oct	34	542	576	57	475	532	1108
TOTAL	936	3636	4582	866	4325	5191	9773

TELEFACSIMILE TRANSACTION SUMMARY
December 1986 through October 1988

NETWORK SITE	SENT ILL	SENT COURIER	SENT TOTAL	RECEIVED ILL	RECEIVED COURIER	RECEIVE TOTAL
Baker Co. Public Library	9	35	44	11	25	36
Blue Mountain Com. College	10	18	38	17	25	42
Boardman City Library	14	202	216	6	66	72
Burns Union High School	*NR	NR	NR	NR	NR	NR
Eastern Oregon State College	156	606	762	157	786	943
Gilliam Co. Library	NR	NR	NR	NR	NR	NR
Good Shepherd Hospital	NR	NR	NR	NR	NR	NR
Grant Co. E.S.D.	NR	NR	NR	NR	NR	NR
Hermiston Public Library	7	59	66	8	25	33
Milton-Freewater Public Library	NR	NR	NR	NR	NR	NR
Oregon State Library	NR	NR	NR	NR	NR	NR
Sacred Heart General Hospital	73	175	248	75	208	283
S.W. Oregon Com. College	NR	NR	NR	NR	NR	NR
St. Anthony Hospital	NR	NR	NR	NR	NR	NR
St. Charles Medical Center	11	143	154	61	82	143
Treasure Valley Com. College	NR	NR	NR	NR	NR	NR
Wallowa Memorial Hospital	0	14	14	0	6	6

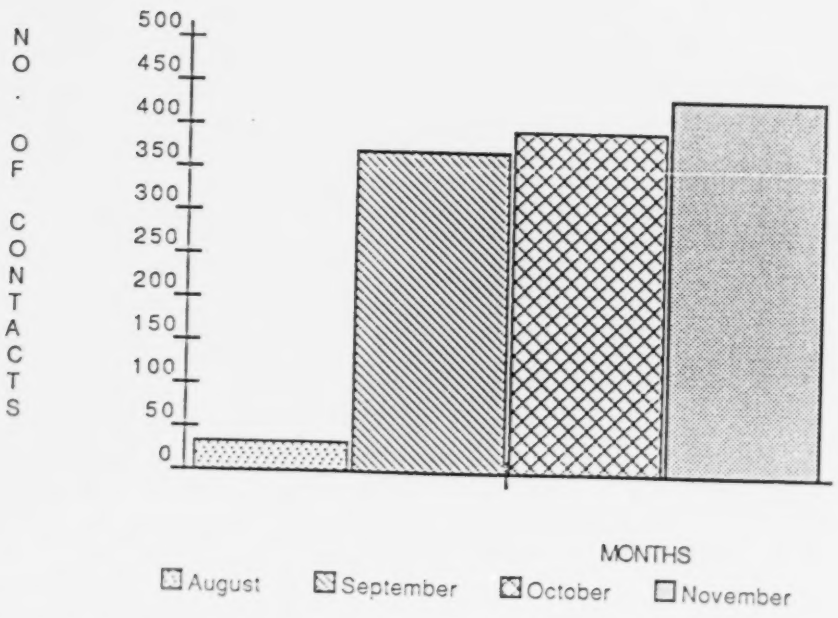
*NR No Records Submitted for Site

INTERLIBRARY LOAN TRANSACTIONS
1986 THROUGH 1988



ELECTRONIC MAIL SYSTEM CONTACTS

Aug. 1988 through Nov. 1988



The SRS/FAX BBS was installed and operational August 1, 1988. This system facilitates communication between eastern Oregon libraries and contains the serials holdings for the six largest libraries in the 10 county region, interlibrary loan processing capabilities, and a messaging system. The Bulletin Board System is open to any library in eastern Oregon to encourage cooperative regional resource sharing.

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